

Great Smoky Mountains National Park
photographs of
***Pinus strobus* - *Tsuga canadensis* /**
Rhododendron maximum* - *Leucothoe
***fontanesiana* Forest**



***Pinus strobus* - *Tsuga canadensis* / *Rhododendron maximum* - *Leucothoe fontanesiana* Forest**

***Pinus strobus* - *Tsuga canadensis* / *Rhododendron maximum* - *Leucothoe fontanesiana*
Forest**

COMMON NAME Eastern White Pine - Eastern Hemlock / Great Rhododendron - Doghobble Forest
SYNONYM Southern Appalachian Eastern Hemlock Forest (White Pine Type)
PHYSIOGNOMIC CLASS Forest (I)
PHYSIOGNOMIC SUBCLASS Evergreen forest (I.A)
PHYSIOGNOMIC GROUP Temperate or subpolar needle-leaved evergreen forest (I.A.8)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (I.A.8.N)
FORMATION Rounded-crowned temperate or subpolar needle-leaved evergreen forest (I.A.8.N.b)

ALLIANCE *Pinus strobus* - *Tsuga canadensis* Forest Alliance

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM Upland

RANGE

Globally

This association occurs in the southern Blue Ridge of Georgia, North Carolina, South Carolina, and Tennessee, and may extend into Kentucky, and Virginia.

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This community was sampled on the Cades Cove and Mount Le Conte quadrangles and is likely in other areas of the Park. Samples on the Cades Cove quadrangle ranged in elevation from 1600 to 2100 feet, mostly in the northwest portion of the quadrangle. Samples of this community came from slopes above More Licker Branch; from slopes along Abrams Creek, northeast of Spruce Double; from slopes above Arbutus Branch; from a ravine south of Coon Butt; and from low slopes in the vicinity of Wildcat Branch. This community is uncommon on the Mount Le Conte quadrangle and was sampled from a single location in the northeastern portion of the quadrangle, on steep, southwest slopes above the Little Pigeon River (1400 feet). This may be the only location for this community on the Mount Le Conte quadrangle.

ENVIRONMENTAL DESCRIPTION

Globally

This community occurs on creek and river margins and on lower or protected slopes.

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This community is found at low elevations on low, protected slopes, and flats along streams. Samples of this community had a mean elevation of 1800 feet, ranging from 1400 to 2100 feet. Samples had southwest, west, northwest, and northeast aspects.

MOST ABUNDANT SPECIES

Globally

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus strobus</i> , (<i>Tsuga canadensis</i>)
Tall shrub	<i>Rhododendron maximum</i>
Short shrub	<i>Leucothoe fontanesiana</i>

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<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus strobus</i> , <i>Tsuga canadensis</i>
Subcanopy	<i>Acer rubrum</i> , <i>Oxydendrum arboreum</i>
Tall shrub	<i>Rhododendron maximum</i>
Short shrub	(<i>Leucothoe fontanesiana</i>)

CHARACTERISTIC SPECIES

Globally

Pinus strobus, *Rhododendron maximum*, *Leucothoe fontanesiana*

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Pinus strobus, *Tsuga canadensis*, *Rhododendron maximum*

VEGETATION DESCRIPTION

Globally

Forest vegetation dominated by *Pinus strobus*, sometimes codominating with *Tsuga canadensis*, occurring over a shrub stratum dominated by *Rhododendron maximum*. Other minor canopy species may include *Liriodendron tulipifera*, *Betula lenta*, *Magnolia fraseri*, *Acer rubrum*, and *Tilia americana* var. *heterophylla*. Other shrub species may include *Kalmia latifolia*, *Leucothoe fontanesiana*, *Lindera benzoin*, and *Ilex opaca* var. *opaca*. Herbaceous cover is typically sparse.

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This forest is dominated by *Pinus strobus* and *Tsuga canadensis*. Other species that may have coverage in the subcanopy include *Acer rubrum*, *Liriodendron tulipifera*, *Magnolia fraseri*, *Oxydendrum arboreum*, and *Quercus alba*. The tall-shrub stratum is dominated by *Rhododendron maximum*. *Leucothoe fontanesiana* sometimes dominates a short-shrub stratum. Other shrubs can include *Calycanthus florida*, *Clethra acuminata*, *Ilex opaca*, *Kalmia latifolia*, and *Pyrularia pubera*. Herb coverage is sparse. Typical species include *Chimaphila maculata*, *Galax urceolata*, *Goodyera pubescens*, *Hexastylis arifolia* var. *ruthii*, and *Mitchella repens*.

OTHER NOTEWORTHY SPECIES

No information

CONSERVATION RANK G4

RANK JUSTIFICATION

DATABASE CODE CEG007102

COMMENTS

Globally

Similar forests in Kentucky lack *Leucothoe fontanesiana* and have *Magnolia macrophylla* rather than *Magnolia fraseri*. This forest is common in the Chattooga River basin of South Carolina and Georgia.

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It is unclear if there is an environmental factor that distinguishes forests codominated by *Tsuga canadensis* and *Pinus strobus* and those dominated by only *Tsuga canadensis*. It is possible that those codominated by *Pinus strobus* occur on drier, more westerly exposed sites or perhaps on previously disturbed sites. It is unlikely that the signature of this association will be distinguishable from that of *Tsuga canadensis* - *Liriodendron tulipifera* / *Rhododendron maximum* / *Tiarella cordifolia* Forest (CEG007136).

REFERENCES

Eyre 1980, Schafale and Weakley 1990